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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.             | CONFIRMATION NO.            |
|---|-------------|----------------------|---------------------------------|-----------------------------|
| 10/576,601  | 04/21/2006  | Wolfgang Klapp       | P29517                          | 2100                        |
| 7055 7590 12/26/2007<br>GREENBLUM & BERNSTEIN, P.L.C.<br>1950 ROLAND CLARKE PLACE<br>RESTON, VA 20191 |             |                      | EXAMINER<br>FISCHER, JUSTIN R   |                             |
|   |             |                      | ART UNIT<br>1791                | PAPER NUMBER                |
|   |             |                      | NOTIFICATION DATE<br>12/26/2007 | DELIVERY MODE<br>ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

## Office Action Summary

Application No.

10/576,601

Applicant(s)

KLAPP ET AL.

Examiner

Justin R. Fischer

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12406.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 7-10, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howland (US 2002/0074068). Howland is directed to a bicycle tire construction comprising an anti-puncture device, wherein said device can include a single layer or multiple layers of fabric (Paragraph 6). Howland further teaches that the anti-puncture device can be formed of a wide variety of materials, including VECTRAN® , which is analogous to the claimed polyester/polyarylate filaments (Paragraph 27). The reference, however, fails to expressly describe the use of at least 30 filaments to form the thread/yarn construction. In view of the general disclosure of Howland, one of ordinary skill in the art at the time of the invention would have been able to appropriately select the thread/yarn construction as a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to form the thread/yarn of Howland from at least 30 filaments. Lastly, it is emphasized that while VECTRAN® is described as a non-preferred embodiment, a reference may be relied upon for all that it would have

reasonably suggested to one having ordinary skill in the art, including non-preferred embodiments (see MPEP 2123).

Regarding claim 2, one of ordinary skill in the art at the time of the invention would have found it obvious to use a wide variety of filaments, including those having diameters less than 40 microns. The particular filament, and thus thread/yarn construction, is a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed diameters.

With respect to claims 3 and 10, VECTRAN ® satisfies the claimed chemical formulas.

Regarding claims 7-9, the anti-puncture device of Howland is formed of woven fabric layers (warp and weft threads). In this instance, threads formed of VECTRAN® are seen to have some degree of stretchability in the circumferential direction of the tire (claims do not require a separate thread material, such as polyamide or polyester).

As to claims 11-13, one of ordinary skill in the art at the time of the invention would have found it obvious to use a wide variety of arrangements, including those having a thread count in accordance to the claimed invention. The particular thread count is a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed thread count.

With respect to claims 19 and 20, the anti-puncture device of Howland comprises at least one woven layer, as set forth above.

3. Claims 1-3, 7, 9, 10, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazusa (US 4,649,979) and further in view of Howland. Kazusa is directed to a bicycle tire construction comprising a breaker between carcass layers, wherein said breaker can include at least one ply (Column 1, Lines 60-70). The reference suggests the use of a wide variety of cord materials, including aromatic polyamides (KEVLAR®). While the reference fails to expressly suggest the use of VECTRAN®, such a material is a well recognized "high performance" fiber that is commonly used as an equivalent alternative to KEVLAR®, as shown for example by Howland (Paragraph 27). It is emphasized that Howland and Kazusa are both directed to tire constructions including an anti-puncture or cut resistant arrangement. Thus, one of ordinary skill in the art at the time of the invention would have found it obvious to use the claimed fiber materials in the breaker of Kazusa. As to the number of filaments, one of ordinary skill in the art at the time of the invention would have been able to appropriately select the thread/yarn construction as a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to form the thread/yarn of Kazusa in view of Howland from at least 30 filaments.

Regarding claim 2, one of ordinary skill in the art at the time of the invention would have found it obvious to use a wide variety of filaments, including those having

diameters less than 40 microns. The particular filament, and thus thread/yarn construction, is a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed diameters.

With respect to claims 3 and 10, VECTRAN® satisfies the claimed chemical formulas.

As to claim 7, VECTRAN® is seen to be stretchable (at least to some degree) in the circumferential direction of the tire.

4. Claims 4-6 and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazusa and Howland as applied in claim 1 above and further in view of Miyamoto (JP 64-60402). As detailed above, Kazusa, in view of Howland, is directed to a anti-puncture breaker construction comprised of at least one ply of polyester/polyarylate filaments (VECTRAN®). In this instance, though, Kazusa is silent as to the specific makeup of the at least one ply. Miyamoto, on the other hand, is directed to an extremely similar anti-puncture breaker construction comprised of at least one ply, wherein said at least one ply is formed of threads/yarns running parallel to one another and inclined between 20 and 50 degrees with respect to the tire circumferential direction. As such, one of ordinary skill in the art at the time of the invention would have found it obvious to form the plies of Kazusa in accordance to the claimed invention (parallel threads). It is emphasized that Kazusa is silent as to the construction of the breaker plies- Miyamoto evidences the known construction of such breaker plies.

Regarding claims 4 and 11-15, one of ordinary skill in the art at the time of the invention would have found it obvious to use a wide variety of arrangements, including those having a thread count in accordance to the claimed invention. The particular thread count is a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed thread count.

With respect to claims 4 and 11-15, one of ordinary skill in the art at the time of the invention would have found it obvious to use a wide variety of arrangements, including those having a thread count in accordance to the claimed invention. The particular thread count is a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed thread count.

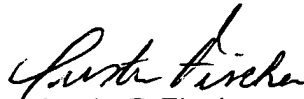
Regarding claims 5, 16, and 17, one of ordinary skill in the art at the time of the invention would have found it obvious to use a wide variety thread arrangements, including those having a thread count in accordance to the claimed invention. The particular fineness is a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed fineness.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Justin R Fischer  
Primary Examiner  
Art Unit 1791

JRF  
December 13, 2007